



SEQUENCE LISTING

<110> BODMER, MARK WILLIAM
BRIEND, EMMANUEL CYRILLE PASCAL
CHAMPION, BRIAN ROBERT
YOUNG, LESLEY LYNN

<120> MODULATORS OF NOTCH SIGNALLING FOR USE IN IMMUNOTHERAPY

<130> 674525-2010

<140> 10/765,727

<141> 2004-01-23

<150> PCT/GB02/03426

<151> 2002-07-25

<150> GB 0118153.6

<151> 2001-07-25

<150> GB 0207930.9

<151> 2002-04-05

<150> GB 0212282.8

<151> 2002-05-28

<150> GB 0212283.6

<151> 2002-05-28

<160> 40

<170> PatentIn Ver. 3.2

<210> 1

<211> 63

<212> PRT

<213> Drosophila melanogaster

<400> 1

Trp Lys Thr Asn Lys Ser Glu Ser Gln Tyr Thr Ser Leu Glu Tyr Asp
1 5 10 15

Phe Arg Val Thr Cys Asp Leu Asn Tyr Tyr Gly Ser Gly Cys Ala Lys
20 25 30

Phe Cys Arg Pro Arg Asp Asp Ser Phe Gly His Ser Thr Cys Ser Glu
35 40 45

Thr Gly Glu Ile Ile Cys Leu Thr Gly Trp Gln Gly Asp Tyr Cys
50 55 60

<210> 2

<211> 63

<212> PRT

<213> Homo sapiens

<400> 2

Trp Ser Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Lys Tyr Ser
 1 5 10 15

Tyr Arg Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Glu
 35 40 45

Arg Gly Glu Lys Val Cys Asn Pro Gly Trp Lys Gly Pro Tyr Cys
 50 55 60

<210> 3

<211> 63

<212> PRT

<213> Mus musculus

<400> 3

Trp Ser Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Arg Tyr Ser
 1 5 10 15

Tyr Arg Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Asp
 35 40 45

Arg Gly Glu Lys Met Cys Asp Pro Gly Trp Lys Gly Gln Tyr Cys
 50 55 60

<210> 4

<211> 63

<212> PRT

<213> Rattus norvegicus

<400> 4

Trp Ser Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Arg Tyr Ser
 1 5 10 15

Tyr Arg Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Glu
 35 40 45

Arg Gly Glu Lys Met Cys Asp Pro Gly Trp Lys Gly Gln Tyr Cys
 50 55 60

<210> 5

<211> 63

<212> PRT

<213> Mus musculus

<400> 5

Trp Arg Thr Asp Glu Gln Asn Asp Thr Leu Thr Arg Leu Ser Tyr Ser
 1 5 10 15

Tyr Arg Val Ile Cys Ser Asp Asn Tyr Tyr Gly Glu Ser Cys Ser Arg
 20 25 30

Leu Cys Lys Lys Arg Asp Asp His Phe Gly His Tyr Glu Cys Gln Pro
 35 40 45

Asp Gly Ser Leu Ser Cys Leu Pro Gly Trp Thr Gly Lys Tyr Cys
 50 55 60

<210> 6

<211> 63

<212> PRT

<213> Homo sapiens

<400> 6

Trp Leu Leu Asp Glu Gln Thr Ser Thr Leu Thr Arg Leu Arg Tyr Ser
 1 5 10 15

Tyr Arg Val Ile Cys Ser Asp Asn Tyr Tyr Gly Asp Asn Cys Ser Arg
 20 25 30

Leu Cys Lys Lys Arg Asn Asp His Phe Gly His Tyr Val Cys Gln Pro
 35 40 45

Asp Gly Asn Leu Ser Cys Leu Pro Gly Trp Thr Gly Glu Tyr Cys
 50 55 60

<210> 7

<211> 63

<212> PRT

<213> Rattus norvegicus

<400> 7

Trp Gln Thr Leu Lys Gln Asn Thr Gly Ile Ala His Phe Glu Tyr Gln
 1 5 10 15

Ile Arg Val Thr Cys Asp Asp His Tyr Tyr Gly Phe Gly Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly His Tyr Ala Cys Asp Gln
 35 40 45

Asn Gly Asn Lys Thr Cys Met Glu Gly Trp Met Gly Pro Glu Cys
 50 55 60

<210> 8

<211> 63

<212> PRT

<213> Mus musculus

<400> 8

Trp Gln Thr Leu Lys Gln Asn Thr Gly Ile Ala His Phe Glu Tyr Gln
 1 5 10 15

Ile Arg Val Thr Cys Asp Asp His Tyr Tyr Gly Phe Gly Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly His Tyr Ala Cys Asp Gln
 35 40 45

Asn Gly Asn Lys Thr Cys Met Glu Gly Trp Met Gly Pro Asp Cys
 50 55 60

<210> 9

<211> 63

<212> PRT

<213> Homo sapiens

<400> 9

Trp Gln Thr Leu Lys Gln Asn Thr Gly Val Ala His Phe Glu Tyr Gln
 1 5 10 15

Ile Arg Val Thr Cys Asp Asp Tyr Tyr Tyr Gly Phe Gly Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly His Tyr Ala Cys Asp Gln
 35 40 45

Asn Gly Asn Lys Thr Cys Met Glu Gly Trp Met Gly Arg Glu Cys
 50 55 60

<210> 10

<211> 63

<212> PRT

<213> Gallus gallus

<400> 10

Trp Gln Thr Leu Lys His Asn Thr Gly Ala Ala His Phe Glu Tyr Gln
 1 5 10 15

Ile Arg Val Thr Cys Ala Glu His Tyr Tyr Gly Phe Gly Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Phe Phe Thr His His Thr Cys Asp Gln
 35 40 45

Asn Gly Asn Lys Thr Cys Leu Glu Gly Trp Thr Gly Pro Glu Cys
 50 55 60

<210> 11

<211> 63

<212> PRT

<213> Gallus gallus

<400> 11

Trp Lys Thr Leu Gln Phe Asn Gly Pro Val Ala Asn Phe Glu Val Gln
 1 5 10 15
 Ile Arg Val Lys Cys Asp Glu Asn Tyr Tyr Ser Ala Leu Cys Asn Lys
 20 25 30
 Phe Cys Gly Pro Arg Asp Asp Phe Val Gly His Tyr Thr Cys Asp Gln
 35 40 45
 Asn Gly Asn Lys Ala Cys Met Glu Gly Trp Met Gly Glu Glu Cys
 50 55 60

<210> 12

<211> 63

<212> PRT

<213> Mus musculus

<400> 12

Trp Lys Ser Leu His Phe Ser Gly His Val Ala His Leu Glu Leu Gln
 1 5 10 15
 Ile Arg Val Arg Cys Asp Glu Asn Tyr Tyr Ser Ala Thr Cys Asn Lys
 20 25 30
 Phe Cys Arg Pro Arg Asn Asp Phe Phe Gly His Tyr Thr Cys Asp Gln
 35 40 45
 Tyr Gly Asn Lys Ala Cys Met Asp Gly Trp Met Gly Lys Glu Cys
 50 55 60

<210> 13

<211> 63

<212> PRT

<213> Homo sapiens

<400> 13

Trp Lys Ser Leu His Phe Ser Gly His Val Ala His Leu Glu Leu Gln
 1 5 10 15
 Ile Arg Val Arg Cys Asp Glu Asn Tyr Tyr Ser Ala Thr Cys Asn Lys
 20 25 30
 Phe Cys Arg Pro Arg Asn Asp Phe Phe Gly His Tyr Thr Cys Asp Gln
 35 40 45
 Tyr Gly Asn Lys Ala Cys Met Asp Gly Trp Met Gly Lys Glu Cys
 50 55 60

<210> 14

<211> 63

<212> PRT

<213> Rattus norvegicus

<400> 14

Trp Lys Ser Leu His Phe Ser Gly His Val Ala His Leu Glu Leu Gln
 1 5 10 15

Ile Arg Val Arg Cys Asp Glu Asn Tyr Tyr Ser Ala Thr Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asn Asp Phe Phe Gly His Tyr Thr Cys Asp Gln
 35 40 45

Tyr Gly Asn Lys Ala Cys Met Asp Gly Trp Met Gly Lys Glu Cys
 50 55 60

<210> 15

<211> 63

<212> PRT

<213> Homo sapiens

<400> 15

Trp Lys Ser Leu His Phe Ser Gly His Val Ala His Leu Glu Leu Gln
 1 5 10 15

Ile Arg Val Arg Cys Asp Glu Asn Tyr Tyr Ser Ala Thr Cys Asn Lys
 20 25 30

Phe Cys Arg Pro Arg Asn Asp Phe Phe Gly His Tyr Thr Cys Asp Gln
 35 40 45

Tyr Gly Asn Lys Ala Cys Met Asp Gly Trp Met Gly Lys Glu Cys
 50 55 60

<210> 16

<211> 63

<212> PRT

<213> Drosophila melanogaster

<400> 16

Trp Lys Thr Leu Asp His Ile Gly Arg Asn Ala Arg Ile Thr Tyr Arg
 1 5 10 15

Val Arg Val Gln Cys Ala Val Thr Tyr Tyr Asn Thr Thr Cys Thr Thr
 20 25 30

Phe Cys Arg Pro Arg Asp Asp Gln Phe Gly His Tyr Ala Cys Gly Ser
 35 40 45

Glu Gly Gln Lys Leu Cys Leu Asn Gly Trp Gln Gly Val Asn Cys
 50 55 60

<210> 17

<211> 723

<212> PRT

<213> Homo sapiens

<400> 17

```

Met Gly Ser Arg Cys Ala Leu Ala Leu Ala Val Leu Ser Ala Leu Leu
 1           5           10           15

Cys Gln Val Trp Ser Ser Gly Val Phe Glu Leu Lys Leu Gln Glu Phe
          20           25           30

Val Asn Lys Lys Gly Leu Leu Gly Asn Arg Asn Cys Cys Arg Gly Gly
          35           40           45

Ala Gly Pro Pro Pro Cys Ala Cys Arg Thr Phe Phe Arg Val Cys Leu
 50           55           60

Lys His Tyr Gln Ala Ser Val Ser Pro Glu Pro Pro Cys Thr Tyr Gly
 65           70           75           80

Ser Ala Val Thr Pro Val Leu Gly Val Asp Ser Phe Ser Leu Pro Asp
          85           90           95

Gly Gly Gly Ala Asp Ser Ala Phe Ser Asn Pro Ile Arg Phe Pro Phe
          100          105          110

Gly Phe Thr Trp Pro Gly Thr Phe Ser Leu Ile Ile Glu Ala Leu His
          115          120          125

Thr Asp Ser Pro Asp Asp Leu Ala Thr Glu Asn Pro Glu Arg Leu Ile
          130          135          140

Ser Arg Leu Ala Thr Gln Arg His Leu Thr Val Gly Glu Glu Trp Ser
          145          150          155          160

Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Lys Tyr Ser Tyr Arg
          165          170          175

Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val Phe Cys
          180          185          190

Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Glu Arg Gly
          195          200          205

Glu Lys Val Cys Asn Pro Gly Trp Lys Gly Pro Tyr Cys Thr Glu Pro
          210          215          220

Ile Cys Leu Pro Gly Cys Asp Glu Gln His Gly Phe Cys Asp Lys Pro
          225          230          235          240

Gly Glu Cys Lys Cys Arg Val Gly Trp Gln Gly Arg Tyr Cys Asp Glu
          245          250          255

Cys Ile Arg Tyr Pro Gly Cys Leu His Gly Thr Cys Gln Gln Pro Trp
          260          265          270

Gln Cys Asn Cys Gln Glu Gly Trp Gly Gly Leu Phe Cys Asn Gln Asp
          275          280          285

Leu Asn Tyr Cys Thr His His Lys Pro Cys Lys Asn Gly Ala Thr Cys
          290          295          300

```

Thr	Asn	Thr	Gly	Gln	Gly	Ser	Tyr	Thr	Cys	Ser	Cys	Arg	Pro	Gly	Tyr	305	310	315	320
Thr	Gly	Ala	Thr	Cys	Glu	Leu	Gly	Ile	Asp	Glu	Cys	Asp	Pro	Ser	Pro	325	330	335	
Cys	Lys	Asn	Gly	Gly	Ser	Cys	Thr	Asp	Leu	Glu	Asn	Ser	Tyr	Ser	Cys	340	345	350	
Thr	Cys	Pro	Pro	Gly	Phe	Tyr	Gly	Lys	Ile	Cys	Glu	Leu	Ser	Ala	Met	355	360	365	
Thr	Cys	Ala	Asp	Gly	Pro	Cys	Phe	Asn	Gly	Gly	Arg	Cys	Ser	Asp	Ser	370	375	380	
Pro	Asp	Gly	Gly	Tyr	Ser	Cys	Arg	Cys	Pro	Val	Gly	Tyr	Ser	Gly	Phe	385	390	395	400
Asn	Cys	Glu	Lys	Lys	Ile	Asp	Tyr	Cys	Ser	Ser	Ser	Pro	Cys	Ser	Asn	405	410	415	
Gly	Ala	Lys	Cys	Val	Asp	Leu	Gly	Asp	Ala	Tyr	Leu	Cys	Arg	Cys	Gln	420	425	430	
Ala	Gly	Phe	Ser	Gly	Arg	His	Cys	Asp	Asp	Asn	Val	Asp	Asp	Cys	Ala	435	440	445	
Ser	Ser	Pro	Cys	Ala	Asn	Gly	Gly	Thr	Cys	Arg	Asp	Gly	Val	Asn	Asp	450	455	460	
Phe	Ser	Cys	Thr	Cys	Pro	Pro	Gly	Tyr	Thr	Gly	Arg	Asn	Cys	Ser	Ala	465	470	475	480
Pro	Val	Ser	Arg	Cys	Glu	His	Ala	Pro	Cys	His	Asn	Gly	Ala	Thr	Cys	485	490	495	
His	Glu	Arg	Gly	His	Gly	Tyr	Val	Cys	Glu	Cys	Ala	Arg	Gly	Tyr	Gly	500	505	510	
Gly	Pro	Asn	Cys	Gln	Phe	Leu	Leu	Pro	Glu	Leu	Pro	Pro	Gly	Pro	Ala	515	520	525	
Val	Val	Asp	Leu	Thr	Glu	Lys	Leu	Glu	Gly	Gln	Gly	Gly	Pro	Phe	Pro	530	535	540	
Trp	Val	Ala	Val	Cys	Ala	Gly	Val	Ile	Leu	Val	Leu	Met	Leu	Leu	Leu	545	550	555	560
Gly	Cys	Ala	Ala	Val	Val	Val	Cys	Val	Arg	Leu	Arg	Leu	Gln	Lys	His	565	570	575	
Arg	Pro	Pro	Ala	Asp	Pro	Cys	Arg	Gly	Glu	Thr	Glu	Thr	Met	Asn	Asn	580	585	590	
Leu	Ala	Asn	Cys	Gln	Arg	Glu	Lys	Asp	Ile	Ser	Val	Ser	Ile	Ile	Gly	595	600	605	

Ala Thr Gln Ile Lys Asn Thr Asn Lys Lys Ala Asp Phe His Gly Asp
610 615 620

His Ser Ala Asp Lys Asn Gly Phe Lys Ala Arg Tyr Pro Ala Val Asp
625 630 635 640

Tyr Asn Leu Val Gln Asp Leu Lys Gly Asp Asp Thr Ala Val Arg Asp
645 650 655

Ala His Ser Lys Arg Asp Thr Lys Cys Gln Pro Gln Gly Ser Ser Gly
660 665 670

Glu Glu Lys Gly Thr Pro Thr Thr Leu Arg Gly Gly Glu Ala Ser Glu
675 680 685

Arg Lys Arg Pro Asp Ser Gly Cys Ser Thr Ser Lys Asp Thr Lys Tyr
690 695 700

Gln Ser Val Tyr Val Ile Ser Glu Glu Lys Asp Glu Cys Val Ile Ala
705 710 715 720

Thr Glu Val

<210> 18
<211> 618
<212> PRT
<213> Homo sapiens

<400> 18
Met Val Ser Pro Arg Met Ser Gly Leu Leu Ser Gln Thr Val Ile Leu
1 5 10 15

Ala Leu Ile Phe Leu Pro Gln Thr Arg Pro Ala Gly Val Phe Glu Leu
20 25 30

Gln Ile His Ser Phe Gly Pro Gly Pro Gly Pro Gly Ala Pro Arg Ser
35 40 45

Pro Cys Ser Ala Arg Leu Pro Cys Arg Leu Phe Phe Arg Val Cys Leu
50 55 60

Lys Pro Gly Leu Ser Glu Glu Ala Ala Glu Ser Pro Cys Ala Leu Gly
65 70 75 80

Ala Ala Leu Ser Ala Arg Gly Pro Val Tyr Thr Glu Gln Pro Gly Ala
85 90 95

Pro Ala Pro Asp Leu Pro Leu Pro Asp Gly Leu Leu Gln Val Pro Phe
100 105 110

Arg Asp Ala Trp Pro Gly Thr Phe Ser Phe Ile Ile Glu Thr Trp Arg
115 120 125

Glu Glu Leu Gly Asp Gln Ile Gly Gly Pro Ala Trp Ser Leu Leu Ala
 130 135 140
 Arg Val Ala Gly Arg Arg Arg Leu Ala Ala Gly Gly Pro Trp Ala Arg
 145 150 155 160
 Asp Ile Gln Arg Ala Gly Ala Trp Glu Leu Arg Phe Ser Tyr Arg Ala
 165 170 175
 Arg Cys Glu Pro Pro Ala Val Gly Thr Ala Cys Thr Arg Leu Cys Arg
 180 185 190
 Pro Arg Ser Ala Pro Ser Arg Cys Gly Pro Gly Leu Arg Pro Cys Ala
 195 200 205
 Pro Leu Glu Asp Glu Cys Glu Ala Pro Leu Val Cys Arg Ala Gly Cys
 210 215 220
 Ser Pro Glu His Gly Phe Cys Glu Gln Pro Gly Glu Cys Arg Cys Leu
 225 230 235 240
 Glu Gly Trp Thr Gly Pro Leu Cys Thr Val Pro Val Ser Thr Ser Ser
 245 250 255
 Cys Leu Ser Pro Arg Gly Pro Ser Ser Ala Thr Thr Gly Cys Leu Val
 260 265 270
 Pro Gly Pro Gly Pro Cys Asp Gly Asn Pro Cys Ala Asn Gly Gly Ser
 275 280 285
 Cys Ser Glu Thr Pro Arg Ser Phe Glu Cys Thr Cys Pro Arg Gly Phe
 290 295 300
 Tyr Gly Leu Arg Cys Glu Val Ser Gly Val Thr Cys Ala Asp Gly Pro
 305 310 315 320
 Cys Phe Asn Gly Gly Leu Cys Val Gly Gly Ala Asp Pro Asp Ser Ala
 325 330 335
 Tyr Ile Cys His Cys Pro Pro Gly Phe Gln Gly Ser Asn Cys Glu Lys
 340 345 350
 Arg Val Asp Arg Cys Ser Leu Gln Pro Cys Arg Asn Gly Gly Leu Cys
 355 360 365
 Leu Asp Leu Gly His Ala Leu Arg Cys Arg Cys Arg Ala Gly Phe Ala
 370 375 380
 Gly Pro Arg Cys Glu His Asp Leu Asp Asp Cys Ala Gly Arg Ala Cys
 385 390 395 400
 Ala Asn Gly Gly Thr Cys Val Glu Gly Gly Gly Ala His Arg Cys Ser
 405 410 415
 Cys Ala Leu Gly Phe Gly Gly Arg Asp Cys Arg Glu Arg Ala Asp Pro
 420 425 430

Cys Ala Ala Arg Pro Cys Ala His Gly Gly Arg Cys Tyr Ala His Phe
 435 440 445
 Ser Gly Leu Val Cys Ala Cys Ala Pro Gly Tyr Met Gly Ala Arg Cys
 450 455 460
 Glu Phe Pro Val His Pro Asp Gly Ala Ser Ala Leu Pro Ala Ala Pro
 465 470 475 480
 Pro Gly Leu Arg Pro Gly Asp Pro Gln Arg Tyr Leu Leu Pro Pro Ala
 485 490 495
 Leu Gly Leu Leu Val Ala Ala Gly Val Ala Gly Ala Ala Leu Leu Leu
 500 505 510
 Val His Val Arg Arg Arg Gly His Ser Gln Asp Ala Gly Ser Arg Leu
 515 520 525
 Leu Ala Gly Thr Pro Glu Pro Ser Val His Ala Leu Pro Asp Ala Leu
 530 535 540
 Asn Asn Leu Arg Thr Gln Glu Gly Ser Gly Asp Gly Pro Ser Ser Ser
 545 550 555 560
 Val Asp Trp Asn Arg Pro Glu Asp Val Asp Pro Gln Gly Ile Tyr Val
 565 570 575
 Ile Ser Ala Pro Ser Ile Tyr Ala Arg Glu Val Ala Thr Pro Leu Phe
 580 585 590
 Pro Pro Leu His Thr Gly Arg Ala Gly Gln Arg Gln His Leu Leu Phe
 595 600 605
 Pro Tyr Pro Ser Ser Ile Leu Ser Val Lys
 610 615

<210> 19
 <211> 685
 <212> PRT
 <213> Homo sapiens

<400> 19
 Met Ala Ala Ala Ser Arg Ser Ala Ser Gly Trp Ala Leu Leu Leu Leu
 1 5 10 15
 Val Ala Leu Trp Gln Gln Arg Ala Ala Gly Ser Gly Val Phe Gln Leu
 20 25 30
 Gln Leu Gln Glu Phe Ile Asn Glu Arg Gly Val Leu Ala Ser Gly Arg
 35 40 45
 Pro Cys Glu Pro Gly Cys Arg Thr Phe Phe Arg Val Cys Leu Lys His
 50 55 60
 Phe Gln Ala Val Val Ser Pro Gly Pro Cys Thr Phe Gly Thr Val Ser
 65 70 75 80

Thr	Pro	Val	Leu	Gly	Thr	Asn	Ser	Phe	Ala	Val	Arg	Asp	Asp	Ser	Ser		
				85					90					95			
Gly	Gly	Gly	Arg	Asn	Pro	Leu	Gln	Leu	Pro	Phe	Asn	Phe	Thr	Trp	Pro		
			100					105					110				
Gly	Thr	Phe	Ser	Leu	Ile	Ile	Glu	Ala	Trp	His	Ala	Pro	Gly	Asp	Asp		
		115					120					125					
Leu	Arg	Pro	Glu	Ala	Leu	Pro	Pro	Asp	Ala	Leu	Ile	Ser	Lys	Ile	Ala		
	130					135					140						
Ile	Gln	Gly	Ser	Leu	Ala	Val	Gly	Gln	Asn	Trp	Leu	Leu	Asp	Glu	Gln		
145					150					155					160		
Thr	Ser	Thr	Leu	Thr	Arg	Leu	Arg	Tyr	Ser	Tyr	Arg	Val	Ile	Cys	Ser		
			165						170					175			
Asp	Asn	Tyr	Tyr	Gly	Asp	Asn	Cys	Ser	Arg	Leu	Cys	Lys	Lys	Arg	Asn		
			180					185					190				
Asp	His	Phe	Gly	His	Tyr	Val	Cys	Gln	Pro	Asp	Gly	Asn	Leu	Ser	Cys		
		195					200					205					
Leu	Pro	Gly	Trp	Thr	Gly	Glu	Tyr	Cys	Gln	Gln	Pro	Ile	Cys	Leu	Ser		
	210					215					220						
Gly	Cys	His	Glu	Gln	Asn	Gly	Tyr	Cys	Ser	Lys	Pro	Ala	Glu	Cys	Leu		
225					230					235					240		
Cys	Arg	Pro	Gly	Trp	Gln	Gly	Arg	Leu	Cys	Asn	Glu	Cys	Ile	Pro	His		
			245						250					255			
Asn	Gly	Cys	Arg	His	Gly	Thr	Cys	Ser	Thr	Pro	Trp	Gln	Cys	Thr	Cys		
			260					265					270				
Asp	Glu	Gly	Trp	Gly	Gly	Leu	Phe	Cys	Asp	Gln	Asp	Leu	Asn	Tyr	Cys		
		275					280					285					
Thr	His	His	Ser	Pro	Cys	Lys	Asn	Gly	Ala	Thr	Cys	Ser	Asn	Ser	Gly		
	290					295					300						
Gln	Arg	Ser	Tyr	Thr	Cys	Thr	Cys	Arg	Pro	Gly	Tyr	Thr	Gly	Val	Asp		
305					310					315					320		
Cys	Glu	Leu	Glu	Leu	Ser	Glu	Cys	Asp	Ser	Asn	Pro	Cys	Arg	Asn	Gly		
				325					330					335			
Gly	Ser	Cys	Lys	Asp	Gln	Glu	Asp	Gly	Tyr	His	Cys	Leu	Cys	Pro	Pro		
			340					345					350				
Gly	Tyr	Tyr	Gly	Leu	His	Cys	Glu	His	Ser	Thr	Leu	Ser	Cys	Ala	Asp		
		355					360					365					
Ser	Pro	Cys	Phe	Asn	Gly	Gly	Ser	Cys	Arg	Glu	Arg	Asn	Gln	Gly	Ala		
	370					375					380						

Asn	Tyr	Ala	Cys	Glu	Cys	Pro	Pro	Asn	Phe	Thr	Gly	Ser	Asn	Cys	Glu	385	390	395	400
Lys	Lys	Val	Asp	Arg	Cys	Thr	Ser	Asn	Pro	Cys	Ala	Asn	Gly	Gly	Gln	405	410	415	
Cys	Leu	Asn	Arg	Gly	Pro	Ser	Arg	Met	Cys	Arg	Cys	Arg	Pro	Gly	Phe	420	425	430	
Thr	Gly	Thr	Tyr	Cys	Glu	Leu	His	Val	Ser	Asp	Cys	Ala	Arg	Asn	Pro	435	440	445	
Cys	Ala	His	Gly	Gly	Thr	Cys	His	Asp	Leu	Glu	Asn	Gly	Leu	Met	Cys	450	455	460	
Thr	Cys	Pro	Ala	Gly	Phe	Ser	Gly	Arg	Arg	Cys	Glu	Val	Arg	Thr	Ser	465	470	475	480
Ile	Asp	Ala	Cys	Ala	Ser	Ser	Pro	Cys	Phe	Asn	Arg	Ala	Thr	Cys	Tyr	485	490	495	
Thr	Asp	Leu	Ser	Thr	Asp	Thr	Phe	Val	Cys	Asn	Cys	Pro	Tyr	Gly	Phe	500	505	510	
Val	Gly	Ser	Arg	Cys	Glu	Phe	Pro	Val	Gly	Leu	Pro	Pro	Ser	Phe	Pro	515	520	525	
Trp	Val	Ala	Val	Ser	Leu	Gly	Val	Gly	Leu	Ala	Val	Leu	Leu	Val	Leu	530	535	540	
Leu	Gly	Met	Val	Ala	Val	Ala	Val	Arg	Gln	Leu	Arg	Leu	Arg	Arg	Pro	545	550	555	560
Asp	Asp	Gly	Ser	Arg	Glu	Ala	Met	Asn	Asn	Leu	Ser	Asp	Phe	Gln	Lys	565	570	575	
Asp	Asn	Leu	Ile	Pro	Ala	Ala	Gln	Leu	Lys	Asn	Thr	Asn	Gln	Lys	Lys	580	585	590	
Glu	Leu	Glu	Val	Asp	Cys	Gly	Leu	Asp	Lys	Ser	Asn	Cys	Gly	Lys	Gln	595	600	605	
Gln	Asn	His	Thr	Leu	Asp	Tyr	Asn	Leu	Ala	Pro	Gly	Pro	Leu	Gly	Arg	610	615	620	
Gly	Thr	Met	Pro	Gly	Lys	Phe	Pro	His	Ser	Asp	Lys	Ser	Leu	Gly	Glu	625	630	635	640
Lys	Ala	Pro	Leu	Arg	Leu	His	Ser	Glu	Lys	Pro	Glu	Cys	Arg	Ile	Ser	645	650	655	
Ala	Ile	Cys	Ser	Pro	Arg	Asp	Ser	Met	Tyr	Gln	Ser	Val	Cys	Leu	Ile	660	665	670	
Ser	Glu	Glu	Arg	Asn	Glu	Cys	Val	Ile	Ala	Thr	Glu	Val				675	680	685	

<210> 20
 <211> 1218
 <212> PRT
 <213> Homo sapiens

<400> 20

Met	Arg	Ser	Pro	Arg	Thr	Arg	Gly	Arg	Ser	Gly	Arg	Pro	Leu	Ser	Leu
1				5					10					15	
Leu	Leu	Ala	Leu	Leu	Cys	Ala	Leu	Arg	Ala	Lys	Val	Cys	Gly	Ala	Ser
			20					25					30		
Gly	Gln	Phe	Glu	Leu	Glu	Ile	Leu	Ser	Met	Gln	Asn	Val	Asn	Gly	Glu
		35					40					45			
Leu	Gln	Asn	Gly	Asn	Cys	Cys	Gly	Gly	Ala	Arg	Asn	Pro	Gly	Asp	Arg
	50					55					60				
Lys	Cys	Thr	Arg	Asp	Glu	Cys	Asp	Thr	Tyr	Phe	Lys	Val	Cys	Leu	Lys
	65				70					75					80
Glu	Tyr	Gln	Ser	Arg	Val	Thr	Ala	Gly	Gly	Pro	Cys	Ser	Phe	Gly	Ser
				85					90					95	
Gly	Ser	Thr	Pro	Val	Ile	Gly	Gly	Asn	Thr	Phe	Asn	Leu	Lys	Ala	Ser
			100					105					110		
Arg	Gly	Asn	Asp	Arg	Asn	Arg	Ile	Val	Leu	Pro	Phe	Ser	Phe	Ala	Trp
		115					120					125			
Pro	Arg	Ser	Tyr	Thr	Leu	Leu	Val	Glu	Ala	Trp	Asp	Ser	Ser	Asn	Asp
	130					135					140				
Thr	Val	Gln	Pro	Asp	Ser	Ile	Ile	Glu	Lys	Ala	Ser	His	Ser	Gly	Met
	145				150					155					160
Ile	Asn	Pro	Ser	Arg	Gln	Trp	Gln	Thr	Leu	Lys	Gln	Asn	Thr	Gly	Val
				165					170					175	
Ala	His	Phe	Glu	Tyr	Gln	Ile	Arg	Val	Thr	Cys	Asp	Asp	Tyr	Tyr	Tyr
			180				185						190		
Gly	Phe	Gly	Cys	Asn	Lys	Phe	Cys	Arg	Pro	Arg	Asp	Asp	Phe	Phe	Gly
		195					200				205				
His	Tyr	Ala	Cys	Asp	Gln	Asn	Gly	Asn	Lys	Thr	Cys	Met	Glu	Gly	Trp
	210					215					220				
Met	Gly	Pro	Glu	Cys	Asn	Arg	Ala	Ile	Cys	Arg	Gln	Gly	Cys	Ser	Pro
	225				230					235					240
Lys	His	Gly	Ser	Cys	Lys	Leu	Pro	Gly	Asp	Cys	Arg	Cys	Gln	Tyr	Gly
				245					250					255	

Trp Gln Gly Leu Tyr Cys Asp Lys Cys Ile Pro His Pro Gly Cys Val
 260 265 270
 His Gly Ile Cys Asn Glu Pro Trp Gln Cys Leu Cys Glu Thr Asn Trp
 275 280 285
 Gly Gly Gln Leu Cys Asp Lys Asp Leu Asn Tyr Cys Gly Thr His Gln
 290 295 300
 Pro Cys Leu Asn Gly Gly Thr Cys Ser Asn Thr Gly Pro Asp Lys Tyr
 305 310 315 320
 Gln Cys Ser Cys Pro Glu Gly Tyr Ser Gly Pro Asn Cys Glu Ile Ala
 325 330 335
 Glu His Ala Cys Leu Ser Asp Pro Cys His Asn Arg Gly Ser Cys Lys
 340 345 350
 Glu Thr Ser Leu Gly Phe Glu Cys Glu Cys Ser Pro Gly Trp Thr Gly
 355 360 365
 Pro Thr Cys Ser Thr Asn Ile Asp Asp Cys Ser Pro Asn Asn Cys Ser
 370 375 380
 His Gly Gly Thr Cys Gln Asp Leu Val Asn Gly Phe Lys Cys Val Cys
 385 390 395 400
 Pro Pro Gln Trp Thr Gly Lys Thr Cys Gln Leu Asp Ala Asn Glu Cys
 405 410 415
 Glu Ala Lys Pro Cys Val Asn Ala Lys Ser Cys Lys Asn Leu Ile Ala
 420 425 430
 Ser Tyr Tyr Cys Asp Cys Leu Pro Gly Trp Met Gly Gln Asn Cys Asp
 435 440 445
 Ile Asn Ile Asn Asp Cys Leu Gly Gln Cys Gln Asn Asp Ala Ser Cys
 450 455 460
 Arg Asp Leu Val Asn Gly Tyr Arg Cys Ile Cys Pro Pro Gly Tyr Ala
 465 470 475 480
 Gly Asp His Cys Glu Arg Asp Ile Asp Glu Cys Ala Ser Asn Pro Cys
 485 490 495
 Leu Asn Gly Gly His Cys Gln Asn Glu Ile Asn Arg Phe Gln Cys Leu
 500 505 510
 Cys Pro Thr Gly Phe Ser Gly Asn Leu Cys Gln Leu Asp Ile Asp Tyr
 515 520 525
 Cys Glu Pro Asn Pro Cys Gln Asn Gly Ala Gln Cys Tyr Asn Arg Ala
 530 535 540
 Ser Asp Tyr Phe Cys Lys Cys Pro Glu Asp Tyr Glu Gly Lys Asn Cys
 545 550 555 560

Ser	His	Leu	Lys	Asp	His	Cys	Arg	Thr	Thr	Pro	Cys	Glu	Val	Ile	Asp	
				565					570					575		
Ser	Cys	Thr	Val	Ala	Met	Ala	Ser	Asn	Asp	Thr	Pro	Glu	Gly	Val	Arg	
			580					585					590			
Tyr	Ile	Ser	Ser	Asn	Val	Cys	Gly	Pro	His	Gly	Lys	Cys	Lys	Ser	Gln	
		595					600					605				
Ser	Gly	Gly	Lys	Phe	Thr	Cys	Asp	Cys	Asn	Lys	Gly	Phe	Thr	Gly	Thr	
	610					615					620					
Tyr	Cys	His	Glu	Asn	Ile	Asn	Asp	Cys	Glu	Ser	Asn	Pro	Cys	Arg	Asn	
	625				630					635					640	
Gly	Gly	Thr	Cys	Ile	Asp	Gly	Val	Asn	Ser	Tyr	Lys	Cys	Ile	Cys	Ser	
				645					650					655		
Asp	Gly	Trp	Glu	Gly	Ala	Tyr	Cys	Glu	Thr	Asn	Ile	Asn	Asp	Cys	Ser	
			660					665					670			
Gln	Asn	Pro	Cys	His	Asn	Gly	Gly	Thr	Cys	Arg	Asp	Leu	Val	Asn	Asp	
		675					680					685				
Phe	Tyr	Cys	Asp	Cys	Lys	Asn	Gly	Trp	Lys	Gly	Lys	Thr	Cys	His	Ser	
	690					695					700					
Arg	Asp	Ser	Gln	Cys	Asp	Glu	Ala	Thr	Cys	Asn	Asn	Gly	Gly	Thr	Cys	
	705				710					715					720	
Tyr	Asp	Glu	Gly	Asp	Ala	Phe	Lys	Cys	Met	Cys	Pro	Gly	Gly	Trp	Glu	
				725					730					735		
Gly	Thr	Thr	Cys	Asn	Ile	Ala	Arg	Asn	Ser	Ser	Cys	Leu	Pro	Asn	Pro	
			740					745					750			
Cys	His	Asn	Gly	Gly	Thr	Cys	Val	Val	Asn	Gly	Glu	Ser	Phe	Thr	Cys	
		755					760					765				
Val	Cys	Lys	Glu	Gly	Trp	Glu	Gly	Pro	Ile	Cys	Ala	Gln	Asn	Thr	Asn	
	770					775					780					
Asp	Cys	Ser	Pro	His	Pro	Cys	Tyr	Asn	Ser	Gly	Thr	Cys	Val	Asp	Gly	
	785				790					795					800	
Asp	Asn	Trp	Tyr	Arg	Cys	Glu	Cys	Ala	Pro	Gly	Phe	Ala	Gly	Pro	Asp	
				805					810					815		
Cys	Arg	Ile	Asn	Ile	Asn	Glu	Cys	Gln	Ser	Ser	Pro	Cys	Ala	Phe	Gly	
			820					825					830			
Ala	Thr	Cys	Val	Asp	Glu	Ile	Asn	Gly	Tyr	Arg	Cys	Val	Cys	Pro	Pro	
		835					840					845				
Gly	His	Ser	Gly	Ala	Lys	Cys	Gln	Glu	Val	Ser	Gly	Arg	Pro	Cys	Ile	
	850					855					860					

Thr Met Gly Ser Val Ile Pro Asp Gly Ala Lys Trp Asp Asp Asp Cys
 865 870 875 880
 Asn Thr Cys Gln Cys Leu Asn Gly Arg Ile Ala Cys Ser Lys Val Trp
 885 890 895
 Cys Gly Pro Arg Pro Cys Leu Leu His Lys Gly His Ser Glu Cys Pro
 900 905 910
 Ser Gly Gln Ser Cys Ile Pro Ile Leu Asp Asp Gln Cys Phe Val His
 915 920 925
 Pro Cys Thr Gly Val Gly Glu Cys Arg Ser Ser Ser Leu Gln Pro Val
 930 935 940
 Lys Thr Lys Cys Thr Ser Asp Ser Tyr Tyr Gln Asp Asn Cys Ala Asn
 945 950 955 960
 Ile Thr Phe Thr Phe Asn Lys Glu Met Met Ser Pro Gly Leu Thr Thr
 965 970 975
 Glu His Ile Cys Ser Glu Leu Arg Asn Leu Asn Ile Leu Lys Asn Val
 980 985 990
 Ser Ala Glu Tyr Ser Ile Tyr Ile Ala Cys Glu Pro Ser Pro Ser Ala
 995 1000 1005
 Asn Asn Glu Ile His Val Ala Ile Ser Ala Glu Asp Ile Arg Asp Asp
 1010 1015 1020
 Gly Asn Pro Ile Lys Glu Ile Thr Asp Lys Ile Ile Asp Leu Val Ser
 1025 1030 1035 1040
 Lys Arg Asp Gly Asn Ser Ser Leu Ile Ala Val Ala Glu Val Arg
 1045 1050 1055
 Val Gln Arg Arg Pro Leu Lys Asn Arg Thr Asp Phe Leu Val Pro Leu
 1060 1065 1070
 Leu Ser Ser Val Leu Thr Val Ala Trp Ile Cys Cys Leu Val Thr Ala
 1075 1080 1085
 Phe Tyr Trp Cys Leu Arg Lys Arg Arg Lys Pro Gly Ser His Thr His
 1090 1095 1100
 Ser Ala Ser Glu Asp Asn Thr Thr Asn Asn Val Arg Glu Gln Leu Asn
 1105 1110 1115 1120
 Gln Ile Lys Asn Pro Ile Glu Lys His Gly Ala Asn Thr Val Pro Ile
 1125 1130 1135
 Lys Asp Tyr Glu Asn Lys Asn Ser Lys Met Ser Lys Ile Arg Thr His
 1140 1145 1150
 Asn Ser Glu Val Glu Glu Asp Asp Met Asp Lys His Gln Gln Lys Ala
 1155 1160 1165

Arg Phe Ala Lys Gln Pro Ala Tyr Thr Leu Val Asp Arg Glu Glu Lys
 1170 1175 1180

Pro Pro Asn Gly Thr Pro Thr Lys His Pro Asn Trp Thr Asn Lys Gln
 1185 1190 1195 1200

Asp Asn Arg Asp Leu Glu Ser Ala Gln Ser Leu Asn Arg Met Glu Tyr
 1205 1210 1215

Ile Val

<210> 21

<211> 1238

<212> PRT

<213> Homo sapiens

<400> 21

Met Arg Ala Gln Gly Arg Gly Arg Leu Pro Arg Arg Leu Leu Leu Leu
 1 5 10 15

Leu Ala Leu Trp Val Gln Ala Ala Arg Pro Met Gly Tyr Phe Glu Leu
 20 25 30

Gln Leu Ser Ala Leu Arg Asn Val Asn Gly Glu Leu Leu Ser Gly Ala
 35 40 45

Cys Cys Asp Gly Asp Gly Arg Thr Thr Arg Ala Gly Gly Cys Gly His
 50 55 60

Asp Glu Cys Asp Thr Tyr Val Arg Val Cys Leu Lys Glu Tyr Gln Ala
 65 70 75 80

Lys Val Thr Pro Thr Gly Pro Cys Ser Tyr Gly His Gly Ala Thr Pro
 85 90 95

Val Leu Gly Gly Asn Ser Phe Tyr Leu Pro Pro Ala Gly Ala Ala Gly
 100 105 110

Asp Arg Ala Arg Ala Arg Ala Arg Gly Gly Asp Gln Asp Pro Gly
 115 120 125

Leu Val Val Ile Pro Phe Gln Phe Ala Trp Pro Arg Ser Phe Thr Leu
 130 135 140

Ile Val Glu Ala Trp Asp Trp Asp Asn Asp Thr Thr Pro Asn Glu Glu
 145 150 155 160

Leu Leu Ile Glu Arg Val Ser His Ala Gly Met Ile Asn Pro Glu Asp
 165 170 175

Arg Trp Lys Ser Leu His Phe Ser Gly His Val Ala His Leu Glu Leu
 180 185 190

Gln Ile Arg Val Arg Cys Asp Glu Asn Tyr Tyr Ser Ala Thr Cys Asn
 195 200 205

Lys Phe Cys Arg Pro Arg Asn Asp Phe Phe Gly His Tyr Thr Cys Asp
 210 215 220
 Gln Tyr Gly Asn Lys Ala Cys Met Asp Gly Trp Met Gly Lys Glu Cys
 225 230 235 240
 Lys Glu Ala Val Cys Lys Gln Gly Cys Asn Leu Leu His Gly Gly Cys
 245 250 255
 Thr Val Pro Gly Glu Cys Arg Cys Ser Tyr Gly Trp Gln Gly Arg Phe
 260 265 270
 Cys Asp Glu Cys Val Pro Tyr Pro Gly Cys Val His Gly Ser Cys Val
 275 280 285
 Glu Pro Trp Gln Cys Asn Cys Glu Thr Asn Trp Gly Gly Leu Leu Cys
 290 295 300
 Asp Lys Asp Leu Asn Tyr Cys Gly Ser His His Pro Cys Thr Asn Gly
 305 310 315 320
 Gly Thr Cys Ile Asn Ala Glu Pro Asp Gln Tyr Arg Cys Thr Cys Pro
 325 330 335
 Asp Gly Tyr Ser Gly Arg Asn Cys Glu Lys Ala Glu His Ala Cys Thr
 340 345 350
 Ser Asn Pro Cys Ala Asn Gly Gly Ser Cys His Glu Val Pro Ser Gly
 355 360 365
 Phe Glu Cys His Cys Pro Ser Gly Trp Ser Gly Pro Thr Cys Ala Leu
 370 375 380
 Asp Ile Asp Glu Cys Ala Ser Asn Pro Cys Ala Ala Gly Gly Thr Cys
 385 390 395 400
 Val Asp Gln Val Asp Gly Phe Glu Cys Ile Cys Pro Glu Gln Trp Val
 405 410 415
 Gly Ala Thr Cys Gln Leu Asp Ala Asn Glu Cys Glu Gly Lys Pro Cys
 420 425 430
 Leu Asn Ala Phe Ser Cys Lys Asn Leu Ile Gly Gly Tyr Tyr Cys Asp
 435 440 445
 Cys Ile Pro Gly Trp Lys Gly Ile Asn Cys His Ile Asn Val Asn Asp
 450 455 460
 Cys Arg Gly Gln Cys Gln His Gly Gly Thr Cys Lys Asp Leu Val Asn
 465 470 475 480
 Gly Tyr Gln Cys Val Cys Pro Arg Gly Phe Gly Gly Arg His Cys Glu
 485 490 495
 Leu Glu Arg Asp Lys Cys Ala Ser Ser Pro Cys His Ser Gly Gly Leu
 500 505 510

Cys	Glu	Asp	Leu	Ala	Asp	Gly	Phe	His	Cys	His	Cys	Pro	Gln	Gly	Phe	515	520	525
Ser	Gly	Pro	Leu	Cys	Glu	Val	Asp	Val	Asp	Leu	Cys	Glu	Pro	Ser	Pro	530	535	540
Cys	Arg	Asn	Gly	Ala	Arg	Cys	Tyr	Asn	Leu	Glu	Gly	Asp	Tyr	Tyr	Cys	545	550	555
Ala	Cys	Pro	Asp	Asp	Phe	Gly	Gly	Lys	Asn	Cys	Ser	Val	Pro	Arg	Glu	565	570	575
Pro	Cys	Pro	Gly	Gly	Ala	Cys	Arg	Val	Ile	Asp	Gly	Cys	Gly	Ser	Asp	580	585	590
Ala	Gly	Pro	Gly	Met	Pro	Gly	Thr	Ala	Ala	Ser	Gly	Val	Cys	Gly	Pro	595	600	605
His	Gly	Arg	Cys	Val	Ser	Gln	Pro	Gly	Gly	Asn	Phe	Ser	Cys	Ile	Cys	610	615	620
Asp	Ser	Gly	Phe	Thr	Gly	Thr	Tyr	Cys	His	Glu	Asn	Ile	Asp	Asp	Cys	625	630	635
Leu	Gly	Gln	Pro	Cys	Arg	Asn	Gly	Gly	Thr	Cys	Ile	Asp	Glu	Val	Asp	645	650	655
Ala	Phe	Arg	Cys	Phe	Cys	Pro	Ser	Gly	Trp	Glu	Gly	Glu	Leu	Cys	Asp	660	665	670
Thr	Asn	Pro	Asn	Asp	Cys	Leu	Pro	Asp	Pro	Cys	His	Ser	Arg	Gly	Arg	675	680	685
Cys	Tyr	Asp	Leu	Val	Asn	Asp	Phe	Tyr	Cys	Ala	Cys	Asp	Asp	Gly	Trp	690	695	700
Lys	Gly	Lys	Thr	Cys	His	Ser	Arg	Glu	Phe	Gln	Cys	Asp	Ala	Tyr	Thr	705	710	715
Cys	Ser	Asn	Gly	Gly	Thr	Cys	Tyr	Asp	Ser	Gly	Asp	Thr	Phe	Arg	Cys	725	730	735
Ala	Cys	Pro	Pro	Gly	Trp	Lys	Gly	Ser	Thr	Cys	Ala	Val	Ala	Lys	Asn	740	745	750
Ser	Ser	Cys	Leu	Pro	Asn	Pro	Cys	Val	Asn	Gly	Gly	Thr	Cys	Val	Gly	755	760	765
Ser	Gly	Ala	Ser	Phe	Ser	Cys	Ile	Cys	Arg	Asp	Gly	Trp	Glu	Gly	Arg	770	775	780
Thr	Cys	Thr	His	Asn	Thr	Asn	Asp	Cys	Asn	Pro	Leu	Pro	Cys	Tyr	Asn	785	790	795
Gly	Gly	Ile	Cys	Val	Asp	Gly	Val	Asn	Trp	Phe	Arg	Cys	Glu	Cys	Ala	805	810	815

Pro Gly Phe Ala Gly Pro Asp Cys Arg Ile Asn Ile Asp Glu Cys Gln
 820 825 830
 Ser Ser Pro Cys Ala Tyr Gly Ala Thr Cys Val Asp Glu Ile Asn Gly
 835 840 845
 Tyr Arg Cys Ser Cys Pro Pro Gly Arg Ala Gly Pro Arg Cys Gln Glu
 850 855 860
 Val Ile Gly Phe Gly Arg Ser Cys Trp Ser Arg Gly Thr Pro Phe Pro
 865 870 875 880
 His Gly Ser Ser Trp Val Glu Asp Cys Asn Ser Cys Arg Cys Leu Asp
 885 890 895
 Gly Arg Arg Asp Cys Ser Lys Val Trp Cys Gly Trp Lys Pro Cys Leu
 900 905 910
 Leu Ala Gly Gln Pro Glu Ala Leu Ser Ala Gln Cys Pro Leu Gly Gln
 915 920 925
 Arg Cys Leu Glu Lys Ala Pro Gly Gln Cys Leu Arg Pro Pro Cys Glu
 930 935 940
 Ala Trp Gly Glu Cys Gly Ala Glu Glu Pro Pro Ser Thr Pro Cys Leu
 945 950 955 960
 Pro Arg Ser Gly His Leu Asp Asn Asn Cys Ala Arg Leu Thr Leu His
 965 970 975
 Phe Asn Arg Asp His Val Pro Gln Gly Thr Thr Val Gly Ala Ile Cys
 980 985 990
 Ser Gly Ile Arg Ser Leu Pro Ala Thr Arg Ala Val Ala Arg Asp Arg
 995 1000 1005
 Leu Leu Val Leu Leu Cys Asp Arg Ala Ser Ser Gly Ala Ser Ala Val
 1010 1015 1020
 Glu Val Ala Val Ser Phe Ser Pro Ala Arg Asp Leu Pro Asp Ser Ser
 1025 1030 1035 1040
 Leu Ile Gln Gly Ala Ala His Ala Ile Val Ala Ala Ile Thr Gln Arg
 1045 1050 1055
 Gly Asn Ser Ser Leu Leu Leu Ala Val Thr Glu Val Lys Val Glu Thr
 1060 1065 1070
 Val Val Thr Gly Gly Ser Ser Thr Gly Leu Leu Val Pro Val Leu Cys
 1075 1080 1085
 Gly Ala Phe Ser Val Leu Trp Leu Ala Cys Val Val Leu Cys Val Trp
 1090 1095 1100
 Trp Thr Arg Lys Arg Arg Lys Glu Arg Glu Arg Ser Arg Leu Pro Arg
 1105 1110 1115 1120

Glu Glu Ser Ala Asn Asn Gln Trp Ala Pro Leu Asn Pro Ile Arg Asn
 1125 1130 1135
 Pro Ile Glu Arg Pro Gly Gly His Lys Asp Val Leu Tyr Gln Cys Lys
 1140 1145 1150
 Asn Phe Thr Pro Pro Pro Arg Arg Ala Asp Glu Ala Leu Pro Gly Pro
 1155 1160 1165
 Ala Gly His Ala Ala Val Arg Glu Asp Glu Glu Asp Glu Asp Leu Gly
 1170 1175 1180
 Arg Gly Glu Glu Asp Ser Leu Glu Ala Glu Lys Phe Leu Ser His Lys
 1185 1190 1195 1200
 Phe Thr Lys Asp Pro Gly Arg Ser Pro Gly Arg Pro Ala His Trp Ala
 1205 1210 1215
 Ser Gly Pro Lys Val Asp Asn Arg Ala Val Arg Ser Ile Asn Glu Ala
 1220 1225 1230
 Arg Tyr Ala Gly Lys Glu
 1235

<210> 22
 <211> 2556
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MOD_RES
 <222> (891)
 <223> Variable amino acid

<400> 22
 Met Pro Pro Leu Leu Ala Pro Leu Leu Cys Leu Ala Leu Leu Pro Ala
 1 5 10 15
 Leu Ala Ala Arg Gly Pro Arg Cys Ser Gln Pro Gly Glu Thr Cys Leu
 20 25 30
 Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys
 35 40 45
 Gly Gly Ala Phe Val Gly Pro Arg Cys Gln Asp Pro Asn Pro Cys Leu
 50 55 60
 Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp Arg Arg
 65 70 75 80
 Gly Val Ala Asp Tyr Ala Cys Ser Cys Ala Leu Gly Phe Ser Gly Pro
 85 90 95
 Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Thr Asn Pro Cys Arg
 100 105 110

Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
 115 120 125
 Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
 130 135 140
 Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ala
 145 150 155 160
 Ser Tyr Ile Cys His Cys Pro Pro Ser Phe His Gly Pro Thr Cys Arg
 165 170 175
 Gln Asp Val Asn Glu Cys Gly Gln Lys Pro Arg Leu Cys Arg His Gly
 180 185 190
 Gly Thr Cys His Asn Glu Val Gly Ser Tyr Arg Cys Val Cys Arg Ala
 195 200 205
 Thr His Thr Gly Pro Asn Cys Glu Arg Pro Tyr Val Pro Cys Ser Pro
 210 215 220
 Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Val Thr
 225 230 235 240
 His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu
 245 250 255
 Asn Ile Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
 260 265 270
 Val Asp Gly Val Asn Thr Tyr Asn Cys Pro Cys Pro Pro Glu Trp Thr
 275 280 285
 Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
 290 295 300
 Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
 305 310 315 320
 Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
 325 330 335
 Asp Asp Cys Ala Ser Ala Ala Cys Phe His Gly Ala Thr Cys His Asp
 340 345 350
 Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
 355 360 365
 Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
 370 375 380
 Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
 385 390 395 400
 Pro Ser Gly Tyr Thr Gly Pro Ala Cys Ser Gln Asp Val Asp Glu Cys
 405 410 415

Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
 420 425 430
 Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
 435 440 445
 Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
 450 455 460
 Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Met Cys Met Pro
 465 470 475 480
 Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
 485 490 495
 Ser Pro Cys Leu His Asn Gly Arg Cys Leu Asp Lys Ile Asn Glu Phe
 500 505 510
 Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
 515 520 525
 Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
 530 535 540
 Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
 545 550 555 560
 Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
 565 570 575
 Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
 580 585 590
 Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
 595 600 605
 Ser Gln Pro Cys Arg Leu Arg Gly Thr Cys Gln Asp Pro Asp Asn Ala
 610 615 620
 Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
 625 630 635 640
 Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
 645 650 655
 Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
 660 665 670
 Ser Met Cys Asn Ser Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
 675 680 685
 Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
 690 695 700
 Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
 705 710 715 720

Asn	Ser	Asn	Pro	Cys	Val	His	Gly	Ala	Cys	Arg	Asp	Ser	Leu	Asn	Gly	725	730	735
Tyr	Lys	Cys	Asp	Cys	Asp	Pro	Gly	Trp	Ser	Gly	Thr	Asn	Cys	Asp	Ile	740	745	750
Asn	Asn	Asn	Glu	Cys	Glu	Ser	Asn	Pro	Cys	Val	Asn	Gly	Gly	Thr	Cys	755	760	765
Lys	Asp	Met	Thr	Ser	Gly	Ile	Val	Cys	Thr	Cys	Arg	Glu	Gly	Phe	Ser	770	775	780
Gly	Pro	Asn	Cys	Gln	Thr	Asn	Ile	Asn	Glu	Cys	Ala	Ser	Asn	Pro	Cys	785	790	795
Leu	Asn	Lys	Gly	Thr	Cys	Ile	Asp	Asp	Val	Ala	Gly	Tyr	Lys	Cys	Asn	805	810	815
Cys	Leu	Leu	Pro	Tyr	Thr	Gly	Ala	Thr	Cys	Glu	Val	Val	Leu	Ala	Pro	820	825	830
Cys	Ala	Pro	Ser	Pro	Cys	Arg	Asn	Gly	Gly	Glu	Cys	Arg	Gln	Ser	Glu	835	840	845
Asp	Tyr	Glu	Ser	Phe	Ser	Cys	Val	Cys	Pro	Thr	Ala	Gly	Ala	Lys	Gly	850	855	860
Gln	Thr	Cys	Glu	Val	Asp	Ile	Asn	Glu	Cys	Val	Leu	Ser	Pro	Cys	Arg	865	870	875
His	Gly	Ala	Ser	Cys	Gln	Asn	Thr	His	Gly	Xaa	Tyr	Arg	Cys	His	Cys	885	890	895
Gln	Ala	Gly	Tyr	Ser	Gly	Arg	Asn	Cys	Glu	Thr	Asp	Ile	Asp	Asp	Cys	900	905	910
Arg	Pro	Asn	Pro	Cys	His	Asn	Gly	Gly	Ser	Cys	Thr	Asp	Gly	Ile	Asn	915	920	925
Thr	Ala	Phe	Cys	Asp	Cys	Leu	Pro	Gly	Phe	Arg	Gly	Thr	Phe	Cys	Glu	930	935	940
Glu	Asp	Ile	Asn	Glu	Cys	Ala	Ser	Asp	Pro	Cys	Arg	Asn	Gly	Ala	Asn	945	950	955
Cys	Thr	Asp	Cys	Val	Asp	Ser	Tyr	Thr	Cys	Thr	Cys	Pro	Ala	Gly	Phe	965	970	975
Ser	Gly	Ile	His	Cys	Glu	Asn	Asn	Thr	Pro	Asp	Cys	Thr	Glu	Ser	Ser	980	985	990
Cys	Phe	Asn	Gly	Gly	Thr	Cys	Val	Asp	Gly	Ile	Asn	Ser	Phe	Thr	Cys	995	1000	1005
Leu	Cys	Pro	Pro	Gly	Phe	Thr	Gly	Ser	Tyr	Cys	Gln	His	Val	Val	Asn	1010	1015	1020

Glu Cys Asp Ser Arg Pro Cys Leu Leu Gly Gly Thr Cys Gln Asp Gly
 1025 1030 1035 1040
 Arg Gly Leu His Arg Cys Thr Cys Pro Gln Gly Tyr Thr Gly Pro Asn
 1045 1050 1055
 Cys Gln Asn Leu Val His Trp Cys Asp Ser Ser Pro Cys Lys Asn Gly
 1060 1065 1070
 Gly Lys Cys Trp Gln Thr His Thr Gln Tyr Arg Cys Glu Cys Pro Ser
 1075 1080 1085
 Gly Trp Thr Gly Leu Tyr Cys Asp Val Pro Ser Val Ser Cys Glu Val
 1090 1095 1100
 Ala Ala Gln Arg Gln Gly Val Asp Val Ala Arg Leu Cys Gln His Gly
 1105 1110 1115 1120
 Gly Leu Cys Val Asp Ala Gly Asn Thr His His Cys Arg Cys Gln Ala
 1125 1130 1135
 Gly Tyr Thr Gly Ser Tyr Cys Glu Asp Leu Val Asp Glu Cys Ser Pro
 1140 1145 1150
 Ser Pro Cys Gln Asn Gly Ala Thr Cys Thr Asp Tyr Leu Gly Gly Tyr
 1155 1160 1165
 Ser Cys Lys Cys Val Ala Gly Tyr His Gly Val Asn Cys Ser Glu Glu
 1170 1175 1180
 Ile Asp Glu Cys Leu Ser His Pro Cys Gln Asn Gly Gly Thr Cys Leu
 1185 1190 1195 1200
 Asp Leu Pro Asn Thr Tyr Lys Cys Ser Cys Pro Arg Gly Thr Gln Gly
 1205 1210 1215
 Val His Cys Glu Ile Asn Val Asp Asp Cys Asn Pro Pro Val Asp Pro
 1220 1225 1230
 Val Ser Arg Ser Pro Lys Cys Phe Asn Asn Gly Thr Cys Val Asp Gln
 1235 1240 1245
 Val Gly Gly Tyr Ser Cys Thr Cys Pro Pro Gly Phe Val Gly Glu Arg
 1250 1255 1260
 Cys Glu Gly Asp Val Asn Glu Cys Leu Ser Asn Pro Cys Asp Ala Arg
 1265 1270 1275 1280
 Gly Thr Gln Asn Cys Val Gln Arg Val Asn Asp Phe His Cys Glu Cys
 1285 1290 1295
 Arg Ala Gly His Thr Gly Arg Arg Cys Glu Ser Val Ile Asn Gly Cys
 1300 1305 1310
 Lys Gly Lys Pro Cys Lys Asn Gly Gly Thr Cys Ala Val Ala Ser Asn
 1315 1320 1325

Thr Ala Arg Gly Phe Ile Cys Lys Cys Pro Ala Gly Phe Glu Gly Ala
 1330 1335 1340
 Thr Cys Glu Asn Asp Ala Arg Thr Cys Gly Ser Leu Arg Cys Leu Asn
 1345 1350 1355 1360
 Gly Gly Thr Cys Ile Ser Gly Pro Arg Ser Pro Thr Cys Leu Cys Leu
 1365 1370 1375
 Gly Pro Phe Thr Gly Pro Glu Cys Gln Phe Pro Ala Ser Ser Pro Cys
 1380 1385 1390
 Leu Gly Gly Asn Pro Cys Tyr Asn Gln Gly Thr Cys Glu Pro Thr Ser
 1395 1400 1405
 Glu Ser Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn Gly Leu
 1410 1415 1420
 Leu Cys His Ile Leu Asp Tyr Ser Phe Gly Gly Gly Ala Gly Arg Asp
 1425 1430 1435 1440
 Ile Pro Pro Pro Leu Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln
 1445 1450 1455
 Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn His Ala
 1460 1465 1470
 Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp
 1475 1480 1485
 Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly
 1490 1495 1500
 His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe
 1505 1510 1515 1520
 Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr
 1525 1530 1535
 Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser
 1540 1545 1550
 Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu
 1555 1560 1565
 Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro Pro Glu
 1570 1575 1580
 Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser Arg Val
 1585 1590 1595 1600
 Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln Gln Met
 1605 1610 1615
 Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His Pro Ile
 1620 1625 1630

Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu Gly Gln
 1635 1640 1645
 Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg Arg Arg
 1650 1655 1660
 Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr Leu Glu
 1665 1670 1675 1680
 Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe Gln Ser
 1685 1690 1695
 Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu Gly Ser
 1700 1705 1710
 Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr Val Glu
 1715 1720 1725
 Pro Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala Ala Ala
 1730 1735 1740
 Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys
 1745 1750 1755 1760
 Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe Lys Val
 1765 1770 1775
 Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu Gly Glu Asp Ser
 1780 1785 1790
 Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu Met Asp
 1795 1800 1805
 Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys Lys Phe
 1810 1815 1820
 Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln Thr Asp
 1825 1830 1835 1840
 His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu Arg Met
 1845 1850 1855
 Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys
 1860 1865 1870
 Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile
 1875 1880 1885
 Ala Ser Cys Ser Gly Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu
 1890 1895 1900
 Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser
 1905 1910 1915 1920
 Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala
 1925 1930 1935

Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser
 1940 1945 1950
 Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala
 1955 1960 1965
 Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn
 1970 1975 1980
 Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu
 1985 1990 1995 2000
 Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile
 2005 2010 2015
 Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala
 2020 2025 2030
 Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val Val Leu
 2035 2040 2045
 Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu Glu Thr
 2050 2055 2060
 Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val
 2065 2070 2075 2080
 Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg
 2085 2090 2095
 Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile Val Arg
 2100 2105 2110
 Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His Gly Ala
 2115 2120 2125
 Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn
 2130 2135 2140
 Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg
 2145 2150 2155 2160
 Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp
 2165 2170 2175
 Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu
 2180 2185 2190
 Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His
 2195 2200 2205
 Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser Pro Phe
 2210 2215 2220
 Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met Pro Asp
 2225 2230 2235 2240

Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro Glu Met
 2245 2250 2255
 Ala Ala Leu Gly Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly Pro Pro
 2260 2265 2270
 Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser Thr Val Leu Gly
 2275 2280 2285
 Ser Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly Gly Ser Thr Ser
 2290 2295 2300
 Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln Ser Gly Met Val
 2305 2310 2315 2320
 Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala Pro Gly Pro Leu
 2325 2330 2335
 Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val Gly Pro Leu His
 2340 2345 2350
 Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met Ser Tyr Gln Gly
 2355 2360 2365
 Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln Thr Gln
 2370 2375 2380
 Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Gln Asn Leu Gln Pro
 2385 2390 2395 2400
 Ala Asn Ile Gln Gln Gln Gln Ser Leu Gln Pro Pro Pro Pro Pro Pro
 2405 2410 2415
 Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly His Leu Gly Arg
 2420 2425 2430
 Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val Gln Pro Leu Gly
 2435 2440 2445
 Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln Glu Ser Pro Ala
 2450 2455 2460
 Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro Val Thr Ala Ala
 2465 2470 2475 2480
 Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro Val Asp
 2485 2490 2495
 Asn Thr Pro Ser His Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr
 2500 2505 2510
 Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
 2515 2520 2525
 Asn Val Ser Asp Trp Ser Glu Gly Val Ser Ser Pro Pro Thr Ser Met
 2530 2535 2540

Gln Ser Gln Ile Ala Arg Ile Pro Glu Ala Phe Lys
 2545 2550 2555

<210> 23
 <211> 2471
 <212> PRT
 <213> Homo sapiens

<400> 23
 Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
 1 5 10 15
 Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
 20 25 30
 Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
 35 40 45
 Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
 50 55 60
 Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
 65 70 75 80
 Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
 85 90 95
 Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
 100 105 110
 Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
 115 120 125
 Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
 130 135 140
 Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
 145 150 155 160
 Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
 165 170 175
 Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
 180 185 190
 Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln
 195 200 205
 Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
 210 215 220
 Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
 225 230 235 240

Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
 245 250 255
 Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
 260 265 270
 Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
 275 280 285
 Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
 290 295 300
 Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
 305 310 315 320
 Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
 325 330 335
 Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
 340 345 350
 Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys
 355 360 365
 Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
 370 375 380
 His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile
 385 390 395 400
 Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
 405 410 415
 Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
 420 425 430
 Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
 435 440 445
 Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
 450 455 460
 Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
 465 470 475 480
 Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn
 485 490 495
 Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
 500 505 510
 Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
 515 520 525
 Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
 530 535 540

Ala	Lys	Cys	Ile	Asp	His	Pro	Asn	Gly	Tyr	Glu	Cys	Gln	Cys	Ala	Thr		
545					550					555					560		
Gly	Phe	Thr	Gly	Val	Leu	Cys	Glu	Glu	Asn	Ile	Asp	Asn	Cys	Asp	Pro		
				565					570					575			
Asp	Pro	Cys	His	His	Gly	Gln	Cys	Gln	Asp	Gly	Ile	Asp	Ser	Tyr	Thr		
			580					585					590				
Cys	Ile	Cys	Asn	Pro	Gly	Tyr	Met	Gly	Ala	Ile	Cys	Ser	Asp	Gln	Ile		
	595						600					605					
Asp	Glu	Cys	Tyr	Ser	Ser	Pro	Cys	Leu	Asn	Asp	Gly	Arg	Cys	Ile	Asp		
	610					615					620						
Leu	Val	Asn	Gly	Tyr	Gln	Cys	Asn	Cys	Gln	Pro	Gly	Thr	Ser	Gly	Val		
625					630					635					640		
Asn	Cys	Glu	Ile	Asn	Phe	Asp	Asp	Cys	Ala	Ser	Asn	Pro	Cys	Ile	His		
				645					650					655			
Gly	Ile	Cys	Met	Asp	Gly	Ile	Asn	Arg	Tyr	Ser	Cys	Val	Cys	Ser	Pro		
		660						665					670				
Gly	Phe	Thr	Gly	Gln	Arg	Cys	Asn	Ile	Asp	Ile	Asp	Glu	Cys	Ala	Ser		
		675					680					685					
Asn	Pro	Cys	Arg	Lys	Gly	Ala	Thr	Cys	Ile	Asn	Gly	Val	Asn	Gly	Phe		
	690					695						700					
Arg	Cys	Ile	Cys	Pro	Glu	Gly	Pro	His	His	Pro	Ser	Cys	Tyr	Ser	Gln		
705					710					715					720		
Val	Asn	Glu	Cys	Leu	Ser	Asn	Pro	Cys	Ile	His	Gly	Asn	Cys	Thr	Gly		
				725					730					735			
Gly	Leu	Ser	Gly	Tyr	Lys	Cys	Leu	Cys	Asp	Ala	Gly	Trp	Val	Gly	Ile		
		740						745					750				
Asn	Cys	Glu	Val	Asp	Lys	Asn	Glu	Cys	Leu	Ser	Asn	Pro	Cys	Gln	Asn		
	755						760					765					
Gly	Gly	Thr	Cys	Asp	Asn	Leu	Val	Asn	Gly	Tyr	Arg	Cys	Thr	Cys	Lys		
	770					775					780						
Lys	Gly	Phe	Lys	Gly	Tyr	Asn	Cys	Gln	Val	Asn	Ile	Asp	Glu	Cys	Ala		
785					790					795					800		
Ser	Asn	Pro	Cys	Leu	Asn	Gln	Gly	Thr	Cys	Phe	Asp	Asp	Ile	Ser	Gly		
			805						810					815			
Tyr	Thr	Cys	His	Cys	Val	Leu	Pro	Tyr	Thr	Gly	Lys	Asn	Cys	Gln	Thr		
			820					825					830				
Val	Leu	Ala	Pro	Cys	Ser	Pro	Asn	Pro	Cys	Glu	Asn	Ala	Ala	Val	Cys		
	835						840					845					

Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
 850 855 860
 Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
 865 870 875 880
 Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
 885 890 895
 Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
 900 905 910
 Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Met Asp
 915 920 925
 Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp
 930 935 940
 Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
 945 950 955 960
 Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
 965 970 975
 Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
 980 985 990
 Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser
 995 1000 1005
 Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys Leu His
 1010 1015 1020
 Glu Ile Asn Glu Cys Ser His Pro Cys Leu Asn Glu Gly Thr Cys
 1025 1030 1035 1040
 Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu Gly Tyr Thr
 1045 1050 1055
 Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser Arg Ser Pro Cys
 1060 1065 1070
 Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala Glu Ser Gln Cys Leu
 1075 1080 1085
 Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys Asp Val Pro Asn Val Ser
 1090 1095 1100
 Cys Asp Ile Ala Ala Ser Arg Arg Gly Val Leu Val Glu His Leu Cys
 1105 1110 1115 1120
 Gln His Ser Gly Val Cys Ile Asn Ala Gly Asn Thr His Tyr Cys Gln
 1125 1130 1135
 Cys Pro Leu Gly Tyr Thr Gly Ser Tyr Cys Glu Glu Gln Leu Asp Glu
 1140 1145 1150

Cys Ala Ser Asn Pro Cys Gln His Gly Ala Thr Cys Ser Asp Phe Ile
 1155 1160 1165
 Gly Gly Tyr Arg Cys Glu Cys Val Pro Gly Tyr Gln Gly Val Asn Cys
 1170 1175 1180
 Glu Tyr Glu Val Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn Gly Gly
 1185 1190 1195 1200
 Thr Cys Ile Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro Pro Gly
 1205 1210 1215
 Thr Arg Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala Arg Gly
 1220 1225 1230
 Pro His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly Gly Tyr
 1235 1240 1245
 Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu Gly Asp
 1250 1255 1260
 Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser Leu Asp
 1265 1270 1275 1280
 Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser Ala Phe
 1285 1290 1295
 Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln Met Pro
 1300 1305 1310
 Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro Asp Gly
 1315 1320 1325
 Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys Gln Ser
 1330 1335 1340
 Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val His Thr
 1345 1350 1355 1360
 Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys Glu Ser
 1365 1370 1375
 Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His Pro Gln
 1380 1385 1390
 Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe Ser Gly
 1395 1400 1405
 Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro Ala Thr
 1410 1415 1420
 Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val Cys Asp
 1425 1430 1435 1440
 Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp Cys Ser
 1445 1450 1455

Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu Pro Cys
 1460 1465 1470
 Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr Val Glu
 1475 1480 1485
 Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys Thr Cys Lys
 1490 1495 1500
 Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His Cys Asn Gln
 1505 1510 1515 1520
 Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp Cys Ala Ala
 1525 1530 1535
 Asp Gln Pro Glu Asn Leu Ala Glu Gly Thr Leu Val Ile Val Val Leu
 1540 1545 1550
 Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe Leu Arg Ala
 1555 1560 1565
 Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg Asp Ser Gln
 1570 1575 1580
 Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser Ala Ala Met
 1585 1590 1595 1600
 Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu Gln Glu Gln
 1605 1610 1615
 Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn Arg Gln Cys
 1620 1625 1630
 Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala Ala Ala Ala
 1635 1640 1645
 Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr Pro Leu Val
 1650 1655 1660
 Ser Val Val Ser Glu Ser Leu Thr Pro Glu Arg Thr Gln Leu Leu Tyr
 1665 1670 1675 1680
 Leu Leu Ala Val Ala Val Val Ile Ile Leu Phe Ile Ile Leu Leu Gly
 1685 1690 1695
 Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp Leu Pro
 1700 1705 1710
 Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg Arg Glu
 1715 1720 1725
 Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val Gln Val
 1730 1735 1740
 Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp Val Asp
 1745 1750 1755 1760

Asp Glu Gly Pro Gln Pro Lys Lys Val Lys Ala Glu Asp Glu Ala Leu
 1765 1770 1775
 Leu Ser Glu Glu Asp Asp Pro Ile Asp Arg Arg Pro Trp Thr Gln Gln
 1780 1785 1790
 His Leu Glu Ala Ala Asp Ile Arg Arg Thr Pro Ser Leu Ala Leu Thr
 1795 1800 1805
 Pro Pro Gln Ala Glu Gln Glu Val Asp Val Leu Asp Val Asn Val Arg
 1810 1815 1820
 Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly
 1825 1830 1835 1840
 Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala
 1845 1850 1855
 Asn Ile Ile Thr Asp Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln
 1860 1865 1870
 Thr Asp Arg Thr Gly Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser
 1875 1880 1885
 Arg Ala Asp Ala Ala Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn
 1890 1895 1900
 Ala Gln Asp Asn Met Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala
 1905 1910 1915 1920
 Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp
 1925 1930 1935
 Leu Asp Ala Arg Met Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala
 1940 1945 1950
 Arg Leu Ala Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala
 1955 1960 1965
 Asp Val Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His Trp Ala
 1970 1975 1980
 Ala Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Leu Lys Asn Gly
 1985 1990 1995 2000
 Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu
 2005 2010 2015
 Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His
 2020 2025 2030
 Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp
 2035 2040 2045
 Val Ala Arg Asp Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu
 2050 2055 2060

Tyr Asn Val Thr Pro Ser Pro Pro Gly Thr Val Leu Thr Ser Ala Leu
 2065 2070 2075 2080
 Ser Pro Val Ile Cys Gly Pro Asn Arg Ser Phe Leu Ser Leu Lys His
 2085 2090 2095
 Thr Pro Met Gly Lys Lys Ser Arg Arg Pro Ser Ala Lys Ser Thr Met
 2100 2105 2110
 Pro Thr Ser Leu Pro Asn Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly
 2115 2120 2125
 Ser Arg Arg Lys Lys Ser Leu Ser Glu Lys Val Gln Leu Ser Glu Ser
 2130 2135 2140
 Ser Val Thr Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Thr Tyr
 2145 2150 2155 2160
 Val Ser Asp Thr Thr Ser Ser Pro Met Ile Thr Ser Pro Gly Ile Leu
 2165 2170 2175
 Gln Ala Ser Pro Asn Pro Met Leu Ala Thr Ala Ala Pro Pro Ala Pro
 2180 2185 2190
 Val His Ala Gln His Ala Leu Ser Phe Ser Asn Leu His Glu Met Gln
 2195 2200 2205
 Pro Leu Ala His Gly Ala Ser Thr Val Leu Pro Ser Val Ser Gln Leu
 2210 2215 2220
 Leu Ser His His His Ile Val Ser Pro Gly Ser Gly Ser Ala Gly Ser
 2225 2230 2235 2240
 Leu Ser Arg Leu His Pro Val Pro Val Pro Ala Asp Trp Met Asn Arg
 2245 2250 2255
 Met Glu Val Asn Glu Thr Gln Tyr Asn Glu Met Phe Gly Met Val Leu
 2260 2265 2270
 Ala Pro Ala Glu Gly Thr His Pro Gly Ile Ala Pro Gln Ser Arg Pro
 2275 2280 2285
 Pro Glu Gly Lys His Ile Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile
 2290 2295 2300
 Val Thr Phe Gln Leu Ile Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly
 2305 2310 2315 2320
 Ala Pro Gln Pro Gln Ser Thr Cys Pro Pro Ala Val Ala Gly Pro Leu
 2325 2330 2335
 Pro Thr Met Tyr Gln Ile Pro Glu Met Ala Arg Leu Pro Ser Val Ala
 2340 2345 2350
 Phe Pro Thr Ala Met Met Pro Gln Gln Asp Gly Gln Val Ala Gln Thr
 2355 2360 2365

Ile Leu Pro Ala Tyr His Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro
 2370 2375 2380
 Thr Pro Pro Ser Gln His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg
 2385 2390 2395 2400
 Thr Pro Ser His Ser Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr
 2405 2410 2415
 Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
 2420 2425 2430
 Ala Ser Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala
 2435 2440 2445
 Gly Gly Gly Gln Arg Gly Pro Gly Thr His Met Ser Glu Pro Pro His
 2450 2455 2460
 Asn Asn Met Gln Val Tyr Ala
 2465 2470

<210> 24

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
DSL domain sequence

<220>

<221> MOD_RES

<222> (2)..(9)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (11)..(13)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (15)..(25)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (27)..(33)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (35)..(42)

<223> Variable amino acid

<400> 24

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa
 1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30

Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
 35 40

<210> 25

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
 DSL consensus sequence

<220>

<221> MOD_RES

<222> (2)..(4)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (5)..(6)

<223> Aromatic amino acid

<220>

<221> MOD_RES

<222> (7)..(9)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (11)..(13)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (15)

<223> Basic amino acid

<220>

<221> MOD_RES

<222> (16)

<223> Nonpolar amino acid

<220>

<221> MOD_RES

<222> (17)

<223> Basic amino acid

<220>

<221> MOD_RES

<222> (18)..(19)
<223> Acidic or amide amino acid

<220>
<221> MOD_RES
<222> (20)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (21)
<223> Aromatic amino acid

<220>
<221> MOD_RES
<222> (22)
<223> Nonpolar amino acid

<220>
<221> MOD_RES
<222> (23)
<223> Aromatic amino acid

<220>
<221> MOD_RES
<222> (24)..(25)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (27)..(29)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (30)
<223> Nonpolar amino acid

<220>
<221> MOD_RES
<222> (31)..(33)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (35)..(36)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (37)
<223> Nonpolar amino acid

<220>
<221> MOD_RES
<222> (38)
<223> Aromatic amino acid

<220>
 <221> MOD_RES
 <222> (39)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (40)
 <223> Nonpolar amino acid

<220>
 <221> MOD_RES
 <222> (41)..(42)
 <223> Variable amino acid

<400> 25
 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa
 1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30
 Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
 35 40

<210> 26
 <211> 43
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Illustrative
 preferred DSL domain sequence

<220>
 <221> MOD_RES
 <222> (2)..(4)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (7)..(9)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (11)..(13)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (20)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (24)..(25)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (27)..(29)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (31)..(33)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (35)..(36)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (39)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (41)..(42)
 <223> Variable amino acid

<400> 26
 Cys Xaa Xaa Xaa Tyr Tyr Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys Arg Pro
 1 5 10 15
 Arg Asx Asp Xaa Phe Gly His Xaa Xaa Cys Xaa Xaa Xaa Gly Xaa Xaa
 20 25 30
 Xaa Cys Xaa Xaa Gly Trp Xaa Gly Xaa Xaa Cys
 35 40

<210> 27
 <211> 175
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Formula
 sequence

<220>
 <221> DISULFID
 <222> (5)..(67)

<220>
 <221> DISULFID
 <222> (54)..(138)

```

<220>
<221> DISULFID
<222> (145)..(174)

<220>
<221> MOD_RES
<222> (1)..(4)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (6)..(53)
<223> Variable amino acid; this range may encompass 0-48 Xaa repeats

<220>
<221> MOD_RES
<222> (55)..(66)
<223> Variable amino acid; this range may encompass 3-12 Xaa repeats

<220>
<221> MOD_RES
<222> (68)..(137)
<223> Variable amino acid; this range may encompass 1-70 Xaa repeats

<220>
<221> MOD_RES
<222> (139)..(144)
<223> Variable amino acid; this range may encompass 1-6 Xaa repeats

<220>
<221> MOD_RES
<222> (146)..(147)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (149)
<223> Aromatic amino acid

<220>
<221> MOD_RES
<222> (150)..(170)
<223> Variable amino acid; this range may encompass 0-21 Xaa repeats

<220>
<221> MOD_RES
<222> (172)..(173)
<223> Variable amino acid

<220>
<221> MOD_RES
<222> (175)
<223> Variable amino acid

```

<400> 27

```

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1          5          10          15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20          25          30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35          40          45

Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50          55          60

Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 65          70          75          80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 85          90          95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
100          105          110

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
115          120          125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
130          135          140

Cys Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145          150          155          160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Cys Xaa
 165          170          175

```

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 28

gtaacccggt gaacccatt

20

<210> 29

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 29

ccatccaatc ggtagtagcg

20

<210> 30
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 30
 ggtgctgata acagcggaat 20

<210> 31
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 31
 atttttggaa tccttcacgc 20

<210> 32
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 32
 gatctggggg gctataaaag ggggta 26

<210> 33
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 33
 agcttacccc cttttatagc ccccca 26

<210> 34
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 34
 gatcccgact cgtgggaaaa tgggcggaag ggcaccgtgg gaaaatagta 50

<210> 35
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 35
 gatctactat tttcccaagg tgcccttccg ccattttcc cacgagtcgg 50

<210> 36
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 36
 caccatgg ctacctgtca g 21

<210> 37
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 37
 ggctgcacct gctgggtctg c 21

<210> 38
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 38
 aaaggattca ccatggcacg caagcgccgg cgcagtcac 39

33

```

<400> 40
Met Ala Arg Lys Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu
  1          5          10          15
Gly Phe Lys Val Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu
          20          25          30
Gly Glu Asp Ser Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly
  35          40          45
Ala Leu Met Asp Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu
  50          55          60
Thr Lys Lys Phe Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp
  65          70          75          80
Asp Gln Thr Asp His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala
          85          90          95
Asp Leu Arg Met Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val
          100          105          110
Asp Ala Asp Cys Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr
          115          120          125
Pro Leu Met Ile Ala Ser Cys Ser Gly Gly Gly Leu Glu Thr Gly Asn
          130          135          140
Ser Glu Glu Glu Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr
  145          150          155          160
Gln Gly Ala Ser Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala
          165          170          175
Leu His Leu Ala Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu
          180          185          190
Leu Glu Ala Ser Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr
          195          200          205

```


Pro Leu His Ala Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile
 210 215 220
 Leu Ile Arg Asn Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly
 225 230 235 240
 Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu
 245 250 255
 Glu Asp Leu Ile Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu
 260 265 270
 Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala
 275 280 285
 Ala Val Val Leu Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn
 290 295 300
 Arg Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu
 305 310 315 320
 Thr Ala Lys Val Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp
 325 330 335
 His Met Asp Arg Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His
 340 345 350
 Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln
 355 360 365
 Leu His Gly Ala Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu
 370 375 380
 Cys Ser Pro Asn Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly
 385 390 395 400
 Lys Lys Val Arg Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys
 405 410 415
 Glu Ala Lys Asp Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys
 420 425 430
 Gly Cys Leu Leu Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu
 435 440 445
 Glu Ser Pro His Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu
 450 455 460
 Pro Ser Pro Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro
 465 470 475 480
 Gly Met Pro Asp Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala
 485 490 495
 Lys Pro Glu Met Ala Ala Leu Gly Gly Gly Arg Leu Ala Phe Glu
 500 505 510

Thr Gly Pro Pro Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser
 515 520 525
 Thr Val Leu Gly Ser Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly
 530 535 540
 Gly Ser Thr Ser Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln
 545 550 555 560
 Ser Gly Met Val Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala
 565 570 575
 Pro Gly Pro Leu Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val
 580 585 590
 Gly Pro Leu His Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met
 595 600 605
 Ser Tyr Gln Gly Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu
 610 615 620
 Val Gln Thr Gln Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Gln
 625 630 635 640
 Asn Leu Gln Pro Ala Asn Ile Gln Gln Gln Gln Ser Leu Gln Pro Pro
 645 650 655
 Pro Pro Pro Pro Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly
 660 665 670
 His Leu Gly Arg Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val
 675 680 685
 Gln Pro Leu Gly Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln
 690 695 700
 Glu Ser Pro Ala Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro
 705 710 715 720
 Val Thr Ala Ala Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser
 725 730 735
 Ser Pro Val Asp Asn Thr Pro Ser His Gln Leu Gln Val Pro Glu His
 740 745 750
 Pro Phe Leu Thr Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser
 755 760 765
 Ser Pro His Ser Asn Val Ser Asp Trp Ser Glu Gly Val Ser Ser Pro
 770 775 780
 Pro Thr Ser Met Gln Ser Gln Ile Ala Arg Ile Pro Glu Ala Phe Lys
 785 790 795 800